WHAT IS CLAIMED IS:

【Claim 1】

1. A method of converting image signals for a display device including six-color subpixels, the method comprising:

classifying three-color input image signals into maximum, middle, and minimum;

decomposing the classified signals into six-color components;

determining a maximum among the six-color components;

calculating a scaling factor; and

extracting six-color output signals.

【Claim 2】

2. The method of claim 1, wherein the three-color signals comprise red, green and blue signals.

【Claim 3】

3. The method of claim 1, wherein the six-color signals comprise red, green, blue, cyan, magenta, and yellow signals.

【Claim 4】

4. The method of claim 3, wherein the decomposition comprises:

expressing a predetermined number of terms of coordinates with coefficients.

【Claim 5】

5. The method of claim 4, wherein the coefficients comprise first to third coefficients expressed as the maximum, middle, and minimum, and the coordinates are assigned to the six-color signals.

【Claim 6】

6. The method of claim 5, wherein the six-color components comprises a first term expressed as a multiplication of the first coefficient and first to sixth coordinates, a second term expressed as a multiplication of the

second coefficient and the first, second, and sixth coordinates, and a third term expressed as a multiplication of the third coefficient and the first coordinate.

【Claim 7】

7. The method of claim 5, wherein the six-color components comprise a first term expressed as a multiplication of the first coefficient and first to sixth coordinates, a second term expressed as a multiplication of the second coefficient and the sixth coordinate, and a third term expressed as a multiplication of the third coefficient and the first coordinate.

【Claim 8】

8. The method of claim 6 or 7, wherein the first to the third terms are further decomposed into the first to sixth coordinates to be expressed as a multiplication of fourth to ninth coefficients and first to sixth coordinates.

【Claim 9】

9. The method of claim 8, wherein the calculation of the scaling factor comprising:

determining a maximum among the coefficients; and

calculating a ratio of the maximum among the fourth to ninth coefficients and the maximum among the three-color signals to determine the scaling factor.

【Claim 10】

10. The method of claim 9, wherein the scaling factor is equal to or larger than one.

【Claim 11】

11. The method of claim 10, wherein the extraction of the six-color signals comprises:

multiplying the scaling factor to the fourth to ninth coefficients.

【Claim 12】

A device of converting image signals for a display device including six-color subpixels, the device comprising:

a signal controller converting three-color input signals into six-color output signals;

a gray voltage generator generating a plurality of gray voltages; and

a data driver converting into the six-color signals into data voltages selected among the gray voltages and supplying the data voltages to the subpixels,

wherein the signal controller comprises:

a magnitude comparator comparing the three-color signals;

a decomposer decomposing the three-color signals into six-color components;

a scaler calculating a scaling factor based on signals from the magnituded comparator and the decomposer; and

a signal extractor multiplying the scaling fact to the six-color components.

【Claim 13】

13. The device of claim 12, wherein the three-color signals comprise red, green and blue signals.

【Claim 14】

14. The device of claim 13, wherein the six-color signals comprise red, green, blue, cyan, magenta, and yellow signals.

【Claim 15】

15. The device of claim 14, wherein the scaling factor is defined as a ratio of the maximum among the six-color components and the maximum among the three-color signals

【Claim 16】

16. The device of claim 15, wherein the signal extractor obtains increments by multiplying the scaling factor to the six-color components.

【Claim 17】

A display device comprising:

a plurality of pixel arranged in matrix, each pixel including first and second sets of three primary color subpixels,

wherein the subpixels are arranges so that two subpixels having complementary relation is adjacent to each other.

【Claim 18】

18. The device of claim 17, wherein the subpixels are arranged in a 2×3 matrix or a 3×2 matrix.

【Claim 19】

19. The device of claim 18, wherein the first set of three primary color subpixels are arranged in a row or a column, and the second set of three primary color subpixels are arranged in a row or a column.

【Claim 20】

20. The device of claim 19, wherein a subpixel having the lowest luminance is disposed at a side.

【Claim 21】

21. The device of claim 19 or 20, wherein three subpixels having relatively high luminance are distributed over different rows or columns.

【Claim 22】

22. The device of claim 21, wherein the three high-luminance subpixels are distributed over two rows or two columns.

【Claim 23】

23. The device of claim 22, wherein the three high-luminance subpixels are arranged symmetrically in a row or column direction.

【Claim 24】

24. The device of claim 19 or 20, wherein two subpixels having relatively high luminance are arranged in a diagonal.

【Claim 25】

25. The device of claim 17, wherein the first or the second set of three primary color subpixels include a white subpixel.

【Claim 26】

26. The device of claim 17, wherein the first set of three primary color subpixels include red, green and blue subpixels, and the second set of three primary color subpixels include cyan, magenta, and yellow subpixels.

【Claim 27】

27. The device of claim 17, wherein the first set of three primary color subpixels include red, green and blue subpixels, and the second set of three primary color subpixels include cyan, white, and yellow subpixels.

【Claim 28】

28. The device of claim 25, wherein the subpixels are arranged in a 2×3 matrix or a 3×2 matrix.

【Claim 29】

29. The device of claim 28, wherein the first set of three primary color subpixels are arranged in a row or a column, and the second set of three primary color subpixels are arranged in a row or a column.

【Claim 30】

30. The device of claim 29, wherein the blue subpixel is disposed at a side.

【Claim 31】

31. The device of claim 30, wherein the green subpixel is disposed at a center.

【Claim 32】

32. The device of claim 31, wherein the green, cyan, and yellow subpixels have luminance higher than other subpixels.

【Claim 33】

33. The device of claim 30, wherein the green subpixel is disposed at a side.

【Claim 34】

34. The device of claim 33, wherein the green and yellow subpixels have luminance higher than other subpixels.